

DATA SHEET

GAS DISCHARGE TUBES TELEPHONE INTERFACE

2R-6 series

RoHS compliant & Halogen free



Product specification— April 25, 2019 V.0



Gas Discharge Tube (GDT) Data Sheet

Features

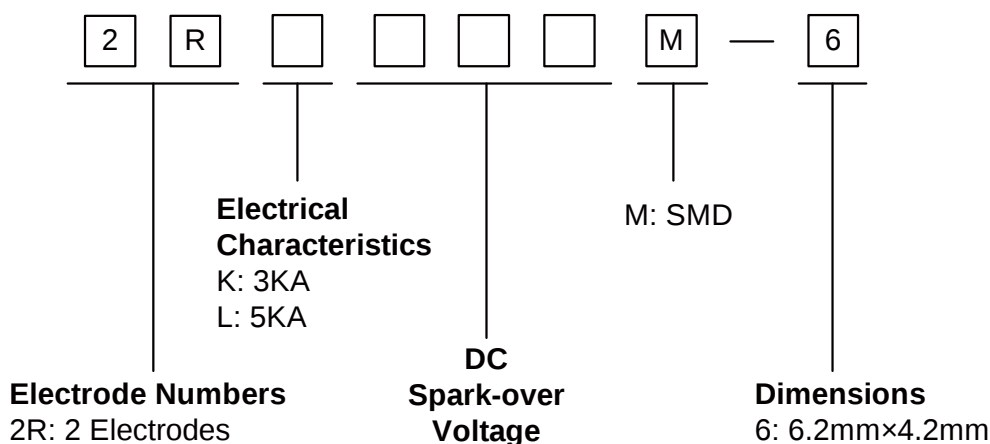
- Provide ultra-fast response to surge voltage from slow-rising surge of 100V/s to rapid-rising surge of 1KV/μs.
- Stable breakdown voltage.
- High insulation resistance.
- Low capacitance ($\leq 1\text{pF}$)
- High holdover voltage
- Large absorbing transient current capability.
- Micro-Gap Design
- Size: 6.2mm*4.2mm
- Storage and operating temperature: $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$
- Meets MSL level 1, per J-STD-020
- Safety certification: E244458 & E327997



Applications

- Repeaters, Modems.
- Telephone Interface, Line cards.
- Data communication equipment.
- Line test equipment

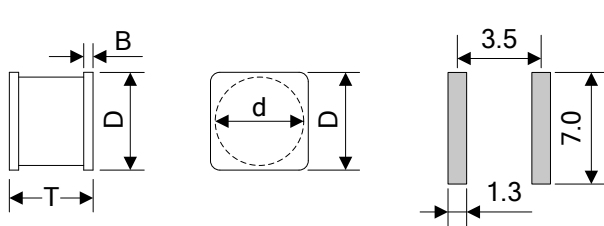
Part Number Code



Marking

B : BrightKing Logo
2RL090-6 : Device Marking Code
YXXX : Date Code

Dimensions

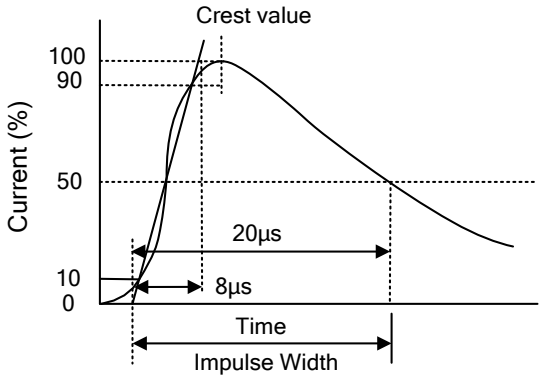
	Dimension (mm)	
	Symbol	
	Spec.	Tolerance
D	6.2	±0.2
T	4.2	±0.2
B	0.6	±0.1
d	6.0	±0.2

Recommended Pad Size

Electrical Characteristics

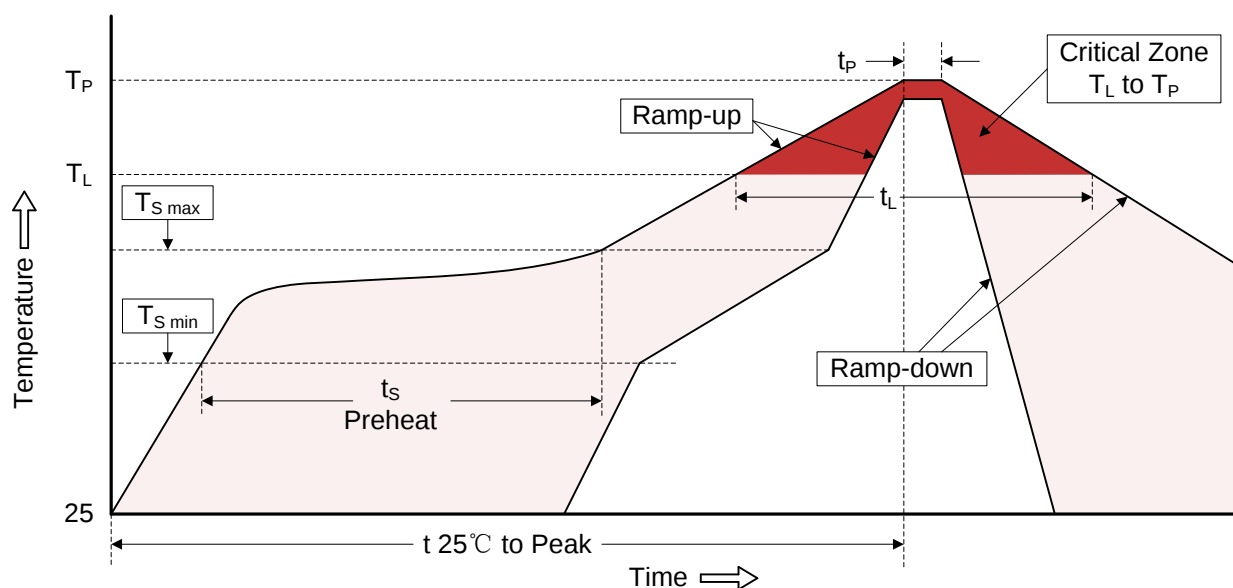
Part Number	DC Spark-over Voltage	Maximum Impulse Spark-over Voltage	Nominal Impulse Discharge Current	Alternating Discharge Current	Impulse Life	Minimum Insulation Resistance		Maximum Capacitance	Device Marking Code
	100V/s	1000V/μs	8/20μs 10times	50Hz, 1sec	10/1000μs 100A	Test Voltage	(GΩ)	1MHz	
	(V)	(V)	(KA)	(A)	(times)	DC(V)		(pF)	
2RL075M-6	75±20%	700	5	5	500	25	1	1.0	2RL075-6
2RL090M-6	90±20%	700	5	5	500	50	1	1.0	2RL090-6
2RL145M-6	145±20%	700	5	5	500	100	1	1.0	2RL145-6
2RL150M-6	150±20%	700	5	5	500	100	1	1.0	2RL150-6
2RL230M-6	230±20%	650	5	5	500	100	1	1.0	2RL230-6
2RL250M-6	250±20%	650	5	5	500	100	1	1.0	2RL250-6
2RL300M-6	300±20%	700	5	5	500	100	1	1.0	2RL300-6
2RL350M-6	350±20%	750	5	5	500	100	1	1.0	2RL350-6
2RL400M-6	400±20%	800	5	5	500	100	1	1.0	2RL400-6
2RL470M-6	470±20%	900	5	5	500	250	1	1.0	2RL470-6
2RL600M-6	600±20%	1000	5	5	500	250	1	1.0	2RL600-6
2RL800M-6	800±20%	1200	5	5	500	250	1	1.0	2RL800-6
2RK1000M-6	1000±20%	1600	3	3	300	500	1	1.0	2RK1000-6
2RK1200M-6	1200±20%	1800	3	3	300	500	1	1.0	2RK1200-6
2RK1800M-6	1800±20%	2600	3	3	300	500	1	1.0	2RK1800-6
2RK2000M-6	2000±20%	2800	3	3	300	500	1	1.0	2RK2000-6
2RK2500M-6	2500±20%	3200	3	3	300	1000	1	1.0	2RK2500-6
2RK2700M-6	2700±20%	3400	3	3	300	1000	1	1.0	2RK2700-6
2RK3000M-6	3000±20%	3700	3	3	300	1000	1	1.0	2RK3000-6

Electrical Ratings

Items	Test Condition/Description	Requirement
DC Spark-over Voltage	The voltage is measured with voltage ramp $dv/dt=100V/s$.	To meet the specified value
Maximum Impulse Spark-over Voltage	The maximum impulse spark-over voltage is measured with voltage ramp $dv/dt=1000V/\mu s$.	
Impulse Discharge Current	Maximum 8/20μs surge current that can be applied between two electrodes, 5 positive and 5 negative surges, with 3 minutes interval time. 	
Alternating Discharge Current	Rated RMS value of AC current at 50Hz, 1 sec. for 10 times with interval time 3 min.	
Insulation Resistance	The resistance of gas tube shall be measured between two electrodes.	
Capacitance	The capacitance of gas tube shall be measured between two electrodes. Test frequency: 1MHz	

Recommended Soldering Conditions

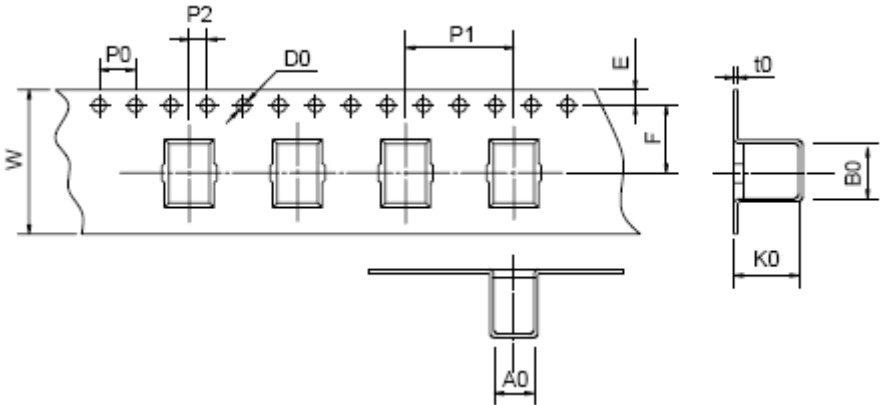
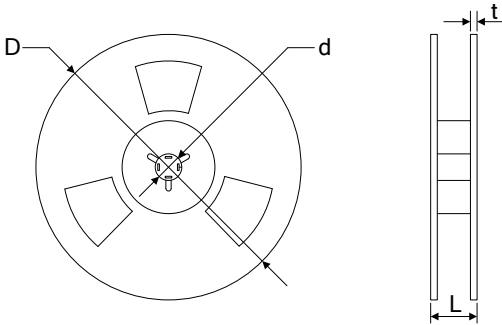
Reflow Soldering



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (t_s)	150°C 200°C 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	3°C/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	217°C 60-150 seconds
Peak Temperature (T_P)	260°C
Time within 5°C of actual Peak Temperature (t_p)	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

Packaging

Tape 	Symbol	Dimension (mm)	
		Spec.	Tolerance
	W	16.00	±0.20
	P0	4.00	±0.10
	P1	12.00	±0.20
	P2	2.00	±0.10
	D0	1.55	±0.05
	E	1.75	±0.10
	F	7.50	±0.10
	A0	4.44	±0.10
	K0	6.37	±0.10
	B0	6.48	±0.10
	t0	0.50	±0.10
Reel 	D	330.00	±1.00
	d	13.00	±0.50
	L	20.00	±0.50
	t	2.00	±0.20
	Quantity: 800pcs		

Mouser Electronics

Authorized Distributor

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[2RL090M-6](#)